

ABSTRACT

Apparatus and methods for reducing radio frequency interference produced by switching amplifiers, includes a variable-order noise shaper in a system that includes an AM tuner. An alternative implementation involves determining the tuned frequency of a radio signal. A first sampling rate is provided at which the radio signal is to be sampled. The first sampling rate is associated with a plurality of first harmonic frequencies. A second sampling rate is also provided and is associated with a plurality of second harmonic frequencies different than the first harmonic frequencies. The method involves selectively sampling the radio signal at one of the first and second sampling rates, wherein the first sampling rate is selected when the first harmonic frequencies do not coincide with the tuned frequency, and the second sampling rate is selected when the second harmonic frequencies do not coincide with the tuned frequency. A still further alternative implementation for reducing RFI involves the second sampling rate being derived using linear interpolation.